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STATEMENT UNDER 37 CFR 3.73(b)			
Applicant/Patent Owner: Agere Systems Inc.			
Application No./Patent No.: 09/634,764 Fi	led/Issue Date: _August 7, 2000		
Entitled: ACOUSTIC MODELING APPARATUS AND METH	OD USING ACCELERATED BEAM TRACING TECHNIQUES		
Agere Systems Inc.	Corporation		
(Name of Assignee)	(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)		
states that it is: 1. the assignee of the entire right, title, and interest; of	or		
2. an assignee of less than the entire right, title and in (The extent (by percentage) of its ownership interests)			
in the patent application/patent identified above by virtue	of either:		
in the United States Patent and Trademark Office a thereof is attached.	pplication/patent identified above. The assignment was recorded at Reel, Frame, or for which a copy		
OR B. A chain of title from the inventor(s), of the patent ap	oplication/patent identified above, to the current assignee as follows:		
1. From: <u>Ingrid B. Carlbom, et al.</u> The document was recorded in the United S Reel <u>011397</u> , Frame <u>0274</u>			
2. From: Lucent Technologies Inc.	To: Agere Systems Guardian Corp.		
The document was recorded in the United S	States Patent and Trademark Office at, or for which a copy thereof is attached.		
3. From: Agere Systems Guardian Corp.	To: Agere Systems Inc.		
The document was recorded in the United S Reel, Frame	States Patent and Trademark Office at, or for which a copy thereof is attached.		
Additional documents in the chain of title are list	ted on a supplemental sheet.		
As required by 37 CFR 3.73(b)(1)(i), the documenta assignee was, or concurrently is being, submitted for reco	ry evidence of the chain of title from the original owner to the ordation pursuant to 37 CFR 3.11.		
	nal assignment document(s)) must be submitted to Assignment ecord the assignment in the records of the USPTO. <u>See</u> MPEP		
The undersigned (whose title is supplied below) is author	ized to act on behalf of the assignee.		
/J. Joel Justiss/	November 1, 2006		
Signature	Date		
J. Joel Justiss	972-480-8800		
Printed or Typed Name	Telephone Number		
Attorney for Applicant Title			

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



UNITED STATES DEPARTMENT OF COMMERCE Patent and Trademark Office

ASSISTANT SECRETARY AND COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20231

MARCH 16, 2001

PTAS

BIRCH, STEWART, KOLASCH & BIRCH, LLP GARY D. YACURA 8110 GATEHOUSE ROAD SUITE 500 EAST FALLS CHURCH, VA 22042



101575602A

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 12/20/2000

REEL/FRAME: 011397/0274

NUMBER OF PAGES: 4

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

CARLBOM, INGRID B.

DOC DATE: 11/07/2000

`ASSIGNOR:

FUNKHOUSER, THOMAS A.

DOC DATE: 11/07/2000

ASSIGNEE:

LUCENT TECHNOLOGIES INC.
600 MOUNTAIN AVENUE
P.O. BOX 636
MURRAY HILL, NEW JERSEY 07974-0636

SERIAL NUMBER: 09634764

`FILING DATE: 08/07/2000

PATENT NUMBER:

ISSUE DATE:

ANTIONE ROYALL, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

ASSIGNMENT AND AGREEMENT

For value received, we, Ingrid B. Carlbom of Summit in the County of Union and State of New Jersey, and Thomas A. Funkhouser of Pennington in the County of Mercer and State of New Jersey, hereby sell, assign and transfer to Lucent Technologies Inc., a corporation of the State of Delaware, having an office at 600 Mountain Avenue, Murray Hill, New Jersey 07974-0636, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to ACOUSTIC MODELING APPARATUS AND METHOD USING ACCELERATED BEAM TRACING TECHNIQUES, described in an application for Letters Patent of the United States, filed in the U.S. Patent and Trademark Office on August 7, 2000 and assigned U.S. Serial No. 09/634,764, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Lucent Technologies Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Lucent Technologies Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Lucent Technologies Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Lucent Technologies Inc. in the United States and in all countries foreign to the United States, or to such nominees as Lucent Technologies Inc. may designate.

We agree that, when requested, we shall, without charge to Lucent Technologies Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Ingrid B. Carlbom

Date: 11/7/2000

United States of America)

State of Mary five (states) ss.:

County of Mary of Mary of Mary (states), 2000, before me personally came Ingrid B. Carlbom, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Notary Public

DIANE C. THOMAS NOTARY PUBLIC OF NEW JERSEY My Commission Expires July 11, 2001

Lucent Ref. No.: 11990 Carlbom 5-4 Attorney Docket No. 2925-0451P

		Thomas A Funkhouser
Date: 11/7/2000		
United States of America)	
State of New Yersey County of Union) ss.:	
County of Union)	•
On this	day of nkhouser, t soing instru	Months of the individual described ament, and acknowledged execution of the
same.		
		Diane C. mines
		Notary Public

DIANE C. THOMAS
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires July 11, 2001

Lucent Technologies Inc. 600 Mountain Avenue (Room 3C-512) P. O. Box 636 Murray Hill, New Jersey 07974-0636

To the Honorable Commissioner of Patent	hed original documents or copy				
1. Name of conveying party(es):	01575602 .ceiving party(es)				
Ingrid B. CARLBOM and Thomas A. FUNKHOUSER Additional name(s) of conveying party(ies) attached? ☐ Yes ☐ No	Name: Lucent Technologies Inc. Internal Address:				
3. Nature of conveyance: Assignment Merger	Street Address: 600 Mountain Avenue, P.O. Box 636				
Security Agreement Change of Name					
Other	Additional name(s) & address(es) attached? Yes No				
Execution Date: November 7, 2000					
4. Application number(s) or patent number(s):					
If this document is being filed together with a new application, the	ne execution date of the application is:				
A. Patent Application No(s). 09/634,764	B. Patent No.(s)				
Additional numbers attached? Yes No					
5. Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1				
Name: BIRCH, STEWART, KOLASCH & BIRCH, LLP	7. Total fee (37 CFR 3.41):				
Internal Address: P.O. Box 747 Falls Church, Virginia 22040-0747	☐ Enclosed				
Street Address: 8110 Gatehouse Road, Suite 500 East	Authorized to be charged to deposit account				
City: Falls Church State: VA ZIP: 22042	8. Deposit account number: 12-2325				
Ball daward washing et fillasi. Sachage	(Attach triplicate copy of this page if paying by deposit account)				
DO NOT US	 SE THIS SPACE				
9. Statement and signature.					
To the best of my knowledge and belief, the foregoing information is true a	nd correct and any attached copy is a true copy of the original document.				
Name of Person Signing Gary D. Yacura, Reg. 35,416 Name of Person Signing Signature #3727	December 20, 2000 Date				
Total number of pages including cover sheet, attachments, and document 4					

PATENT ASSIGNMENT

by and between

LUCENT TECHNOLOGIES INC.

and

AGERE SYSTEMS GUARDIAN CORP.

Dated as of January 30, 2001

PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (this "Assignment"), effective as of January 30, 2001 (the "Effective Date"), is by and between Lucent Technologies Inc., a Delaware corporation, with offices at 600 Mountain Avenue, Murray Hill, New Jersey 07974, United States of America, ("ASSIGNOR") and Agere Systems Guardian Corp., a Delaware corporation, with offices at 555 Union Boulevard, Allentown, PA 18109, United States of America ("Agere Systems Guardian").

RECITALS

- A. WHEREAS, the Board of Directors of ASSIGNOR has determined that it is in the best interests of ASSIGNOR and its stockholders to separate ASSIGNOR's existing businesses into two independent businesses;
- B. WHEREAS, ASSIGNOR presently owns or controls certain patents, patent applications, and invention submissions listed in the attached Appendices A and B (hereinafter "TRANSFERRED PATENTS") and;
- C. WHEREAS, in furtherance of the foregoing separation, ASSIGNOR desires to transfer, assign, convey, deliver and vest all of its interests and rights in TRANSFERRED PATENTS for all countries, jurisdictions and political entities of the world, to and in Agere Systems Guardian;

NOW, THEREFORE, in consideration of the premises and for other good and valid consideration, the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, agree as follows:

ASSIGNOR, subject to existing rights and licenses of third parties, does hereby assign, convey, transfer and deliver, and agrees to assign, convey, transfer and deliver to Agere Systems Guardian, its successors, assigns and legal representatives or nominees, ASSIGNOR's entire right, title and interest, for all countries, jurisdictions and political entities of the world, along with the right to sue for past infringement, to all TRANSFERRED PATENTS listed on Appendices A and B, and corresponding counterpart foreign patents and patent applications, with respect to which, and to the extent to which, ASSIGNOR now has or hereafter acquires the right to so assign, convey, transfer and deliver. Agere Systems Guardian recognizes that ASSIGNOR holds only bare legal title to the TRANSFERRED PATENTS listed in Appendix A (which lists the United States Patents and patent applications previously exclusively licensed to Lucent Technologies Microelectronics Guardian Corp.).

ASSIGNOR and ASSIGNEE recognize that the patents listed in Appendices A and B may inadvertently include patents that are owned by various subsidiaries of ASSIGNOR, including Agere, Inc., Ortel Corporation, Optimay Corporation, Herrmann Technology, Inc., and Enable Semiconductor, Inc. Ownership of such patents shall not be affected by this Patent

Assignment, and ASSIGNEE agrees that any such patents shall be deemed deleted from Appendices A and B.

ASSIGNOR agrees that, upon request it will, at any time without charge to Agere Systems Guardian, but at Agere Systems Guardian's expense, furnish all necessary documentation relating to or supporting chain of title, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for vesting title to TRANSFERRED PATENTS in Agere Systems Guardian, its successors, assigns and legal representatives or nominees; including but not limited to any acts which may be necessary, desirable or convenient for claiming said rights and for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in Agere Systems Guardian and its respective successors, assigns and legal representatives or nominees.

IN WITNESS WHEREOF, the parties have caused this PATENT ASSIGNMENT to be executed by their duly authorized representatives as of the Effective Date.

LUCENT TECHNOLOGIES INC.

Daniel P. McCurdy

President, Intellectual Property Business

AGERE SYSTEMS GUARDIAN CORP.

Fred M Ramana

President

ACKNOWLEDGMENTS

STATE OF NEW JERSEY) : ss:	
COUNTY OF SOMERSET)	
	gies Inc.; and made by Lucent Technologies Inc. as its
	Name TAMORA ANNE HANNA Notary Public My Commission Expires in Hunterdon County [Notarial Seal] Notarial Seal]
STATE OF FLORIDA) : ss: COUNTY OF ORANGE)	
personally came before me and this person acknown a.) this person signed, sealed and Vice President of Agere System b.) this Person Assignment was signed.	delivered the attached Patent Assignment as
	Name Notary Public My Commission Expires: [Notarial Seal]
	MARY V CARTER MY COMMISSION & CC 999433 EXCIRES: Sep 20, 2004 1-EXCIPANTIARY FL Notway Service & Bonding, Inc.

APPENDIX B (continued) Transferred Patents

Case Name	Filing Date	Issue Date	Patent No.	Serial No.
Cannon 81-74-29	10/14/1999			09/418996
Cannon 82-75-30	10/5/1999			09/412178
Cannon 83-76-31	10/5/1999			09/412182
Cannon 84-77	10/21/1999			09/422238
Cannon 85-32	11/2/1999			09/432119
Cannon 86-33	11/23/1999			09/447279
Cannon 87-34-10	11/16/1999			09/441078
Cannon 88-78-36	10/15/1999			09/419483
Cannon 89-80-38	11/5/1999			09/434359
Cannon 90-81-39	11/5/1999		00/00000	09/434992
Cannon 9-12-12	1/20/1998		09/009600	00/440000
Cannon 91-82-41	11/24/1999			09/448932
Cannon 93-84-43-24	12/10/1999			09/458651 09/478883
Cannon 94-85-17-44 Cannon 95-86	1/7/2000 12/20/1999			60/172842
Cannon 95-87-45	3/13/2000		ه ي	09/524347
Cannon 97-88	2/23/2000			09/511701
Cannon 98-2	5/25/2000			09/579565
Cannon 99-89-46	4/20/2000			09/553283
Cao 2-2-11-11-6	11/23/1999			09/447284
Caras 2-14-28-5-1	5/14/1999			09/312435
Carelli 3-21	3/31/2000			09/540473
Carelli 4-2	8/7/2000		09/633660	
Cargo 5-8-14-7	9/4/1997		08/923316	
Carlbom 5-4	8/6/1999			60/147662
Carr 1-18-201-8-3	11/3/2000		09/705350	00000507
Carroll 4-4-3-3-2-1	12/28/1998			09/222587
Carroll 5-2-4	2/1/1999		·	09/243377 09/241458
Carroll 6-3-5	2/2/1999			09/448521
Carroll 7-4	11/23/1999 8/26/1999			09/383694
Сагтоll 8-5-5-3 Сагтоll 9-4-25-1-1-6-22-1	6/29/1999			60/141551
Case 1-2	4/6/1999			09/286430
Castellano Rodriquez 1-1-1	11/2/1999			09/431320
Cauffman 1-1-5-13-3	5/19/1998		09/081409	
Cauffman 1-3-3-4-1	1/12/2000			09/481435
Cauffman 2-2-6-2-1	1/15/1999			09/232113
Cava 35-5	12/29/1998	7/25/2000	6093668	09/222110
Celebi 2	2/11/2000			09/5 0 198 4
Celebi 3	8/16/2000		09/639642	
Celebi 4	8/16/2000		09/639641	
Celler 20-1	6/10/1998		09/095468	
Cesari 5-6	8/10/1998		09/131929 08/988250	
Chabinec 2-9-8-17	12/10/1997		09/130240	
Chacon 1-49	8/6/1998 10/23/1998		09/130240	09/178317
Chacon 2-51 Chacon 3-56-1	11/23/1998			09/197807
Chacon 4-58-98	8/26/1999			09/383457
Chacon 5-2-1-8-115	8/31/1999			09/387299
Chacon 6-117-131	8/30/1999			09/385971
Chacon 7-47-44-133	9/13/2000		09/660900	
Chacon 7-47-44-133	9/15/1999			60/154086
Chacon 8-15-2-1-148	4/27/2000			09/562346
Chadha 1-1-1	2/26/1998		09/031012	
Chadha 2-2-2	10/19/1998			09/174846
Chakrabarti 17-19	4/12/1999			09/290535
Chakrabarti 21-16	6/30/1999			09/343738
Chakrabarti 24	3/30/2000			09/538690
Chakrabarti 26-1-9-1-4	1/18/2000			09/487400
Chakrabarti 30-34-9	3/1/2000			09/516347

PAGE 1

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"AGERE SYSTEMS GUARDIAN CORP.", A DELAWARE CORPORATION,
WITH AND INTO "AGERE SYSTEMS INC." UNDER THE NAME OF "AGERE
SYSTEMS INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE
LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS
OFFICE THE TWENTY-NINTH DAY OF AUGUST, A.D. 2002, AT 9 O'CLOCK
A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF AUGUST, A.D. 2002.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



Warriet Smith Windson, Secretary of State

AUTEENTICATION: 1959517

DATE: 08-29-02

3268412 B100M

020545223

CERTIFICATE OF OWNERSHIP AND MERGER

OF

Agere Systems Guardien Corp. (a Delaware corporation)

OTAI

Agere Systems Inc.
(a Delaware corporation)

UNDER SECTION 253 OF THE GENERAL CORPORATION LAW OF THE STATE OF DELAWARE

Agere Systems Inc., a corporation organized and existing under the laws of Detaware ("Corporation"), DOES HEREBY CERTIFY:

FIRST: The Corporation is the owner of all of the outstanding shares of common stock of Agere Systems Guardian Corp., which is also a business corporation of the State of Delaware.

SECOND: On August 22, 2002 the Subsidiary Governance Committee of the Soard of Directors of the Corporation adopted the following resolution to merge Agere Systems Guardian Corp. into the Corporation:

RESOLVED that Agere Systems Guardian Corp., a Delaware corporation, shall be merged with and into Agere Systems Inc., a Delaware corporation, with Agere Systems Inc. being the surviving corporation, and Agere Systems Inc. shall thereupon assume all of the obligations of Agere Systems Guardian Corp."

THIRD: That the merger authorized heraby shall become effective as of 9:00 a.m. Eastern Standard Time on August 31, 2002.

Executed on August 22, 2002

AGERE SYSTEMS INC.

Paul Bento, Vice President

GENERAL APPOINTMENT OF AGENT

AND

POWER OF ATTORNEY

Agere Systems Inc., for itself and its subsidiaries, and as successor in interest to patents of Agere Systems Inc., hereby appoints:

> Ian M. Hughes, Reg. No. 41,083 Mark Kurisko, Reg. No. 38,944 Marie MacNichol, Reg. No. 35941 Scott W. McLellan, Reg. No. 30,776 David L. Smith, Reg. No. 30,592 Lloyd Sadler, Reg. No. 40,154 John P. Veschi, Reg. No. 39,058 David A. Sasso, Reg. No. 43,084 Chad Hilyard, Reg. No. 40,647

as agents and attorneys to act on Agere Systems Inc.'s behalf before any competent National and International Authorities in connection with any and all patents and patent applications filed by Agere Systems Inc., its wholly-owned subsidiaries or its predecessors, or otherwise issued or pending in the name of Agere Systems Inc. or any of its wholly-owned subsidiaries or predecessors, with the power to further appoint agents. and grant powers of attorney in connection therewith.

Agere Systems Inc.

John P. Veschi Vice President — Intellectual Property & Law

Date: NOVEMBER 4 2015